I49.89:82/47-1/map E4

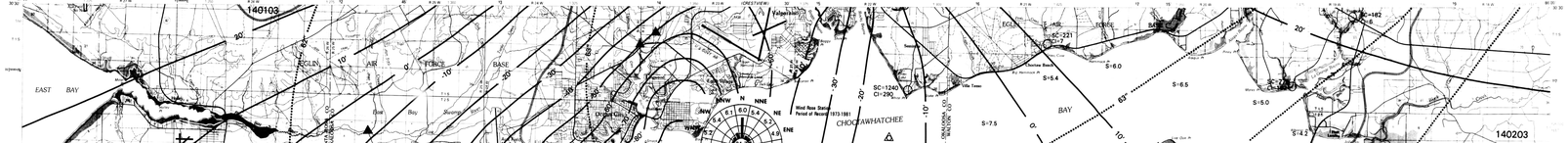
MMS 85-0011
FWS/OBS-82/47.1

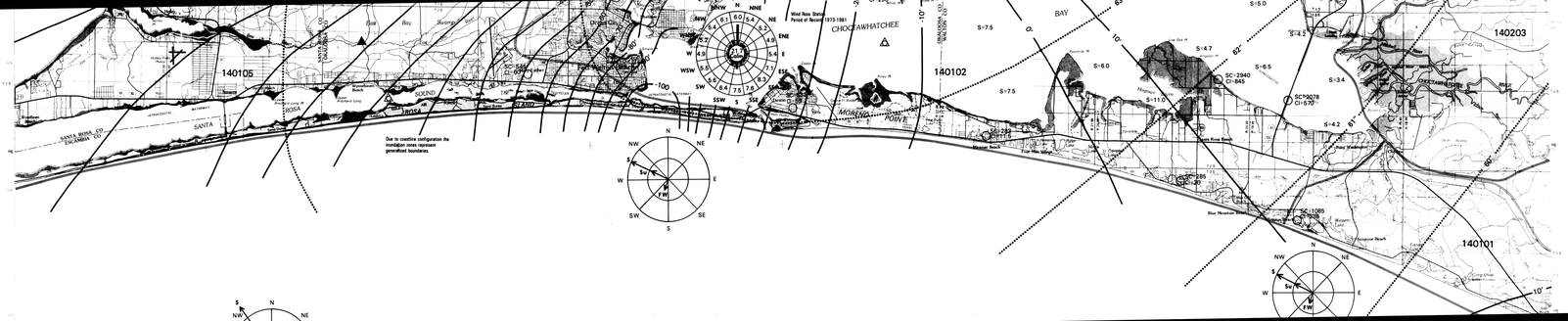
MAP E4

Fort Walton Beach

FLORIDA ECOLOGICAL ATLAS

HYDROLOGY AND CLIMATOLOGY





TOPICAL MAPS IN THIS ATLAS:

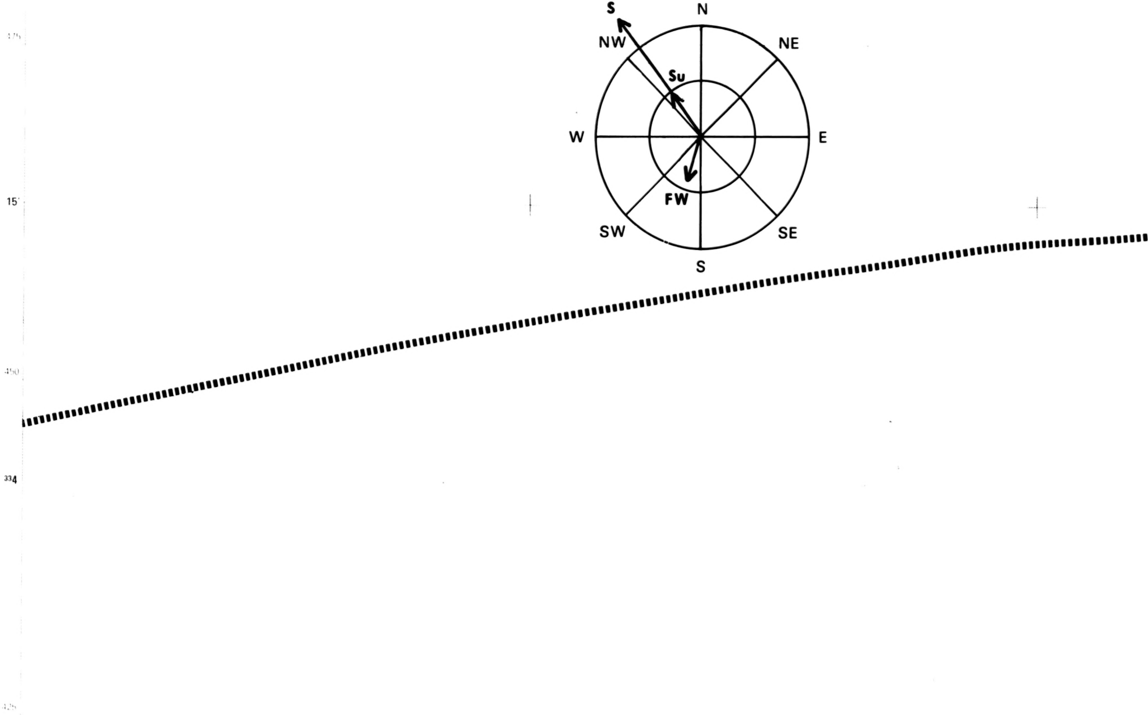
A. BIOLOGICAL RESOURCES
B. SOCIOECONOMIC FEATURES
C. SOILS AND LANDFORMS
D. OIL, GAS AND MINERALS
E. HYDROLOGY AND CLIMATOLOGY

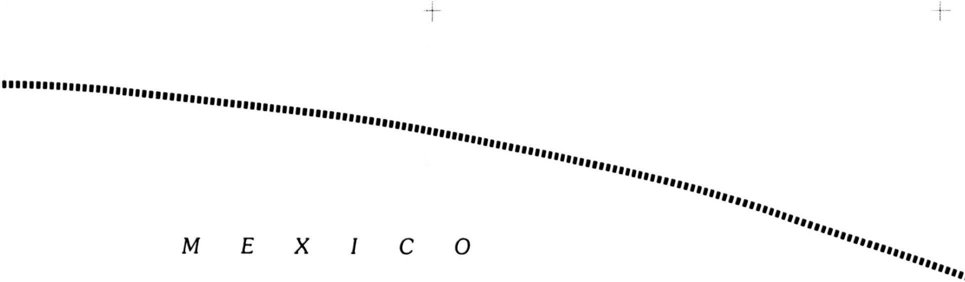
1984

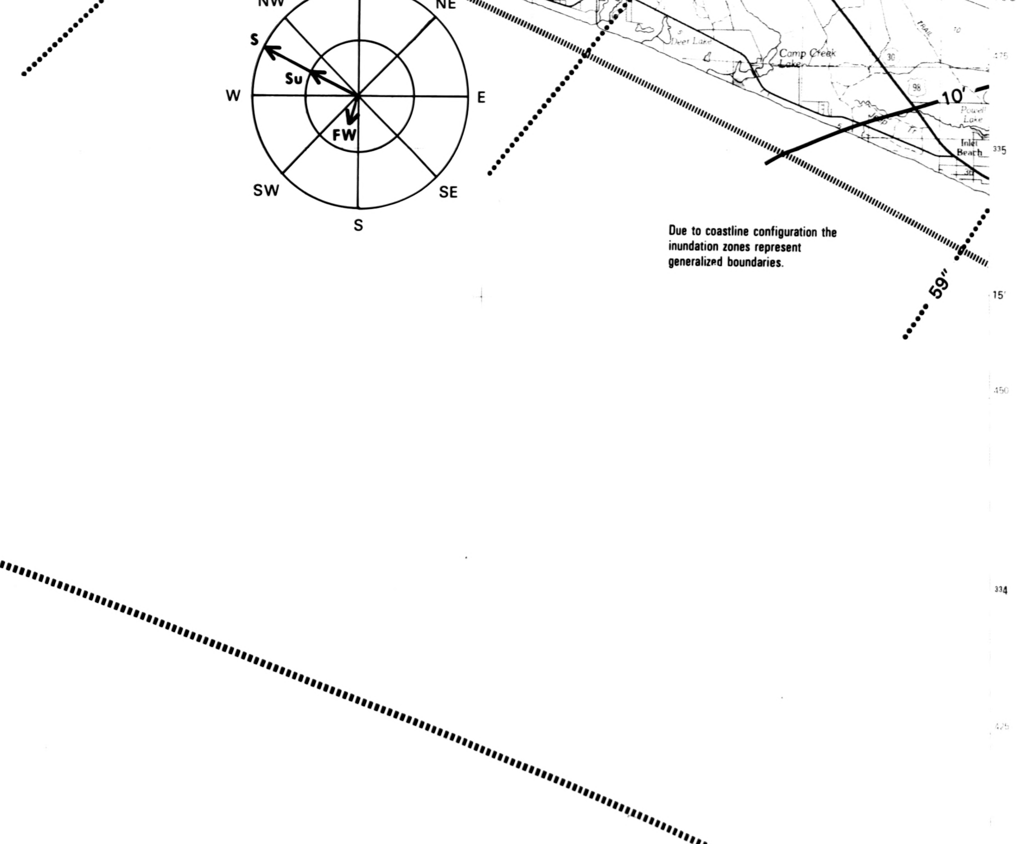
Produced by U.S. Fish and Wildlife Service and Minerals Management Service

Projection and 10,000 meter grid, zone 17: Universal Transverse Mercator
25,000-foot grid ticks based on Florida coordinate system, west zone

Overlay material compiled in 1983 from latest available data obtained from


S
N
NW
NE
Su
W
E
FW
SW
SE
S
475
15'
450
334
425




NW
NE
S
Su
W
E
FW
SW
SE
S
Deer Lake
Camp Creek Lake
TRAIL
30
98
10′
Powell Lake
Inlet Beach
335
59″
15′
450
334
425

Due to coastline configuration the inundation zones represent generalized boundaries.

Produced by U.S. Fish and Wildlife
Service and Minerals Management Service

Projection and 10,000 meter grid, zone 17: Universal Transverse Mercator
25,000-foot grid ticks based on Florida coordinate system, west zone

Overlay material compiled in 1983 from latest available data obtained from Federal, State and Local government agencies and other sources.

—50′— **POTENTIOMETRIC CONTOURS OF THE FLORIDAN AQUIFER**

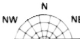
The map represents dry season water levels present in tightly cased wells penetrating the Floridan Aquifer during May of 1980. The contour interval is 5 and 10 feet. Contour lines have been generalized to allow for non-simultaneous water level measurement and variable well depth.
Groundwater flow is down-gradient from potentiometric highs and perpendicular to potentiometric contour lines.
(Measured in feet above mean sea level)

••••52″•••• **MEAN ANNUAL ISOHYETAL (RAINFALL) CONTOURS**

(1951-1980 National Weather Service Normal Base Period)
The contour interval is 1.0″ (refer to narrative for monthly isohyetal maps and for trend evaluation).

6 **NATIONAL WEATHER SERVICE 30-YEAR CLIMATOLOGICAL STATION**

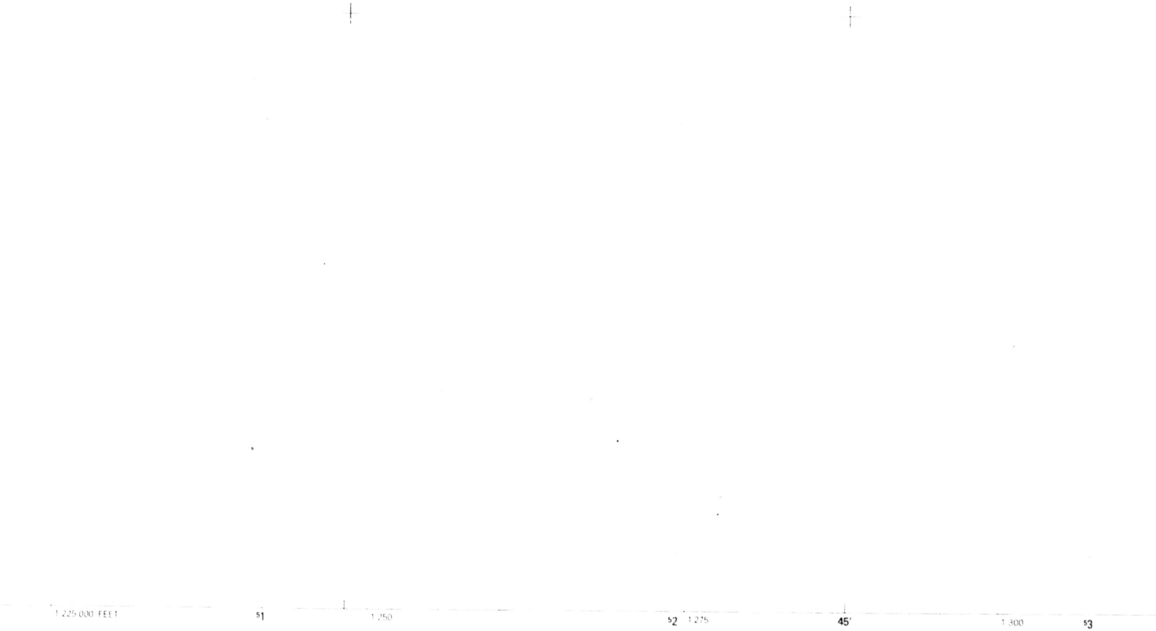
(Number in the box on map refers to station name in supplemental legend

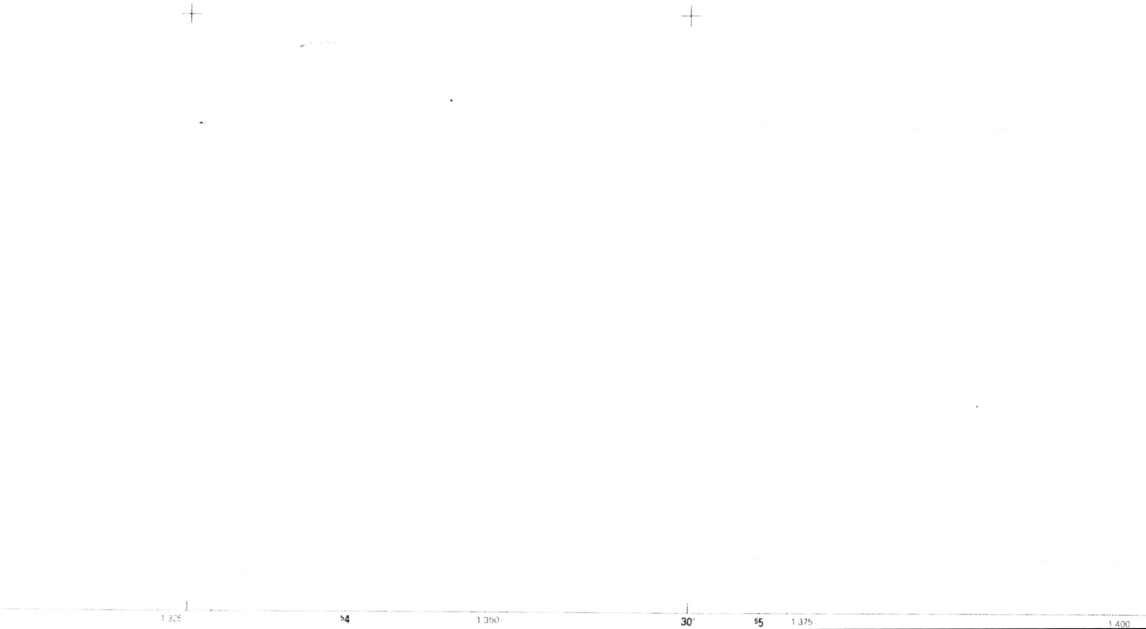


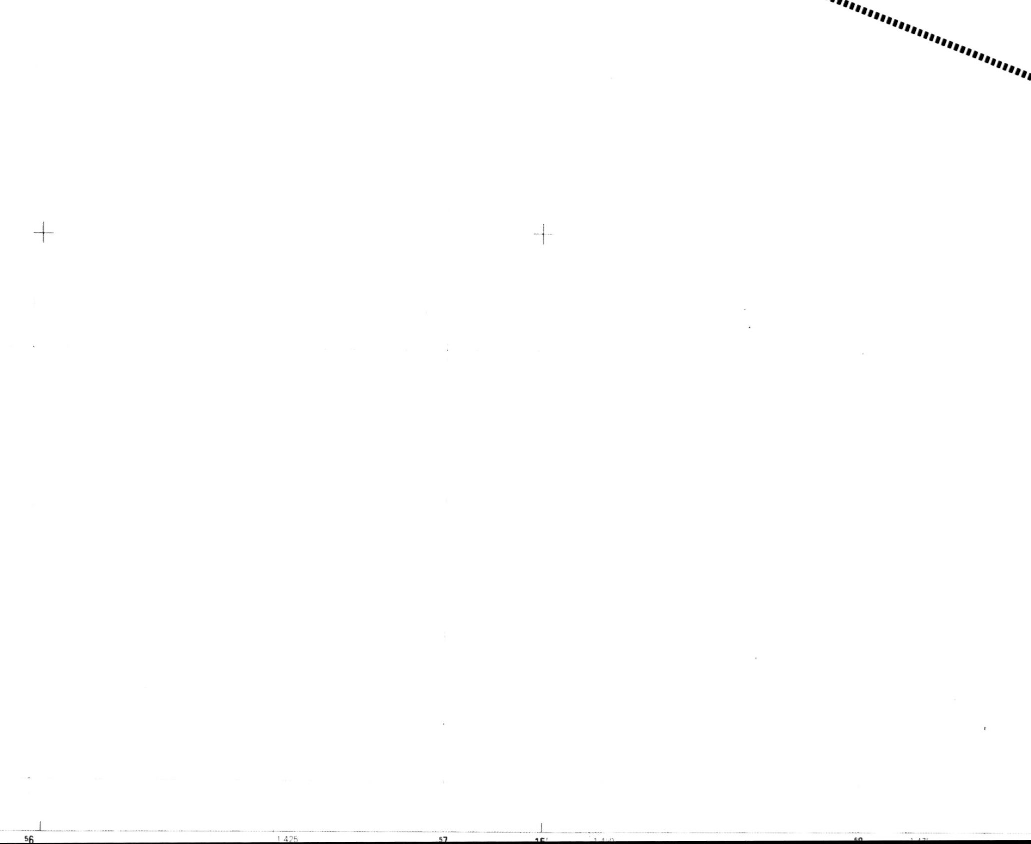
WIND ROSE STATION

Concentric circles represent 5% frequency interval. The average wind speed (mph) is listed in the outer

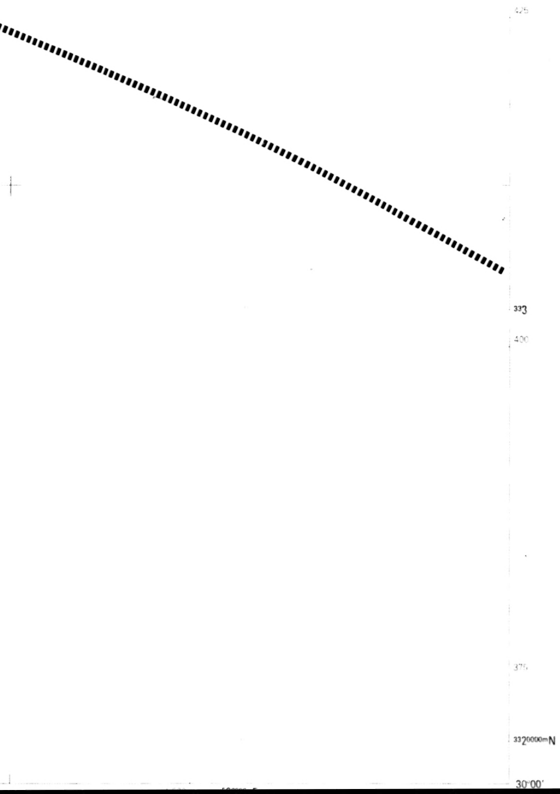
425
333
400
332
375 000
FEET
30°00′
87°00′







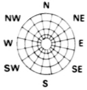
The contour interval is 1.0" (refer to narrative for monthly isohyetal maps and for trend evaluation).



6 **NATIONAL WEATHER SERVICE 30-YEAR CLIMATOLOGICAL STATION**

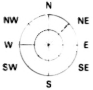
(Number in the box on map refers to station name in supplemental legend

WIND ROSE STATION



Concentric circles represent 5% frequency interval. The average wind speed (mph) is listed in the outer quadrant of each vector direction (Wind rose data represents wind data that has been summarized by the National Climatic Center for Airports, Naval Air Stations and NWS Offices)

OFFSHORE SURFACE CURRENT ROSE



Resultant vectors for each season are shown. The magnitude of each vector is proportional to the velocity. (Concentric circles represent 3 centimeters/second currents) Vectors defined by the New England Coastal Engineers Computer Model G.A.L.

S	Spring
Su	Summer
FW	Fall/Winter

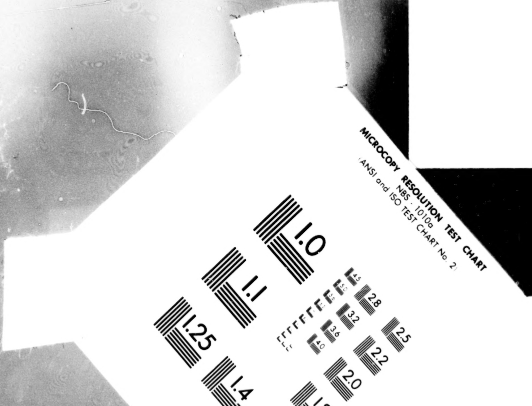
HURRICANE INUNDATION ZONES

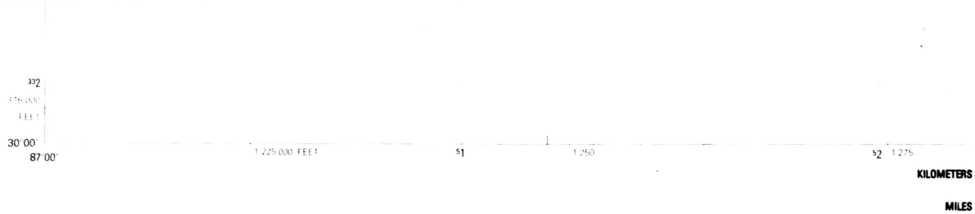
(Maximum areas subject to flooding by Storm Category, as defined by National Weather Service Computer Models)

▨	Category #1 Storm (74-95 mph winds; probability of occurence 1:10 years)
▨	Category #2 Storm (96-110 mph winds; probability of occurence 1:27 years)
☐	Category #3 Storm (111-130 mph winds; probability of occurence 1:42 years)
☐	Category #4 Storm (131-155 mph winds; probability of occurence no historical record)
☐	Category #5 Storm (> 155 mph winds; probability of occurence no historical record)

(Hurricane inundation zones on this map represent generalized areas of maximum areal storm surge flooding by storm category. The scale and detail of this map are meant for planning purposes only. This map is unsuitable for determining the vulnerability of individual buildings to storm surge)

U.S. GEOLOGICAL SURVEY


MICROCOPY RESOLUTION TEST CHART
NBS - 1010a
(ANSI and ISO TEST CHART No. 2)
1.0
1.1
1.25
1.4
2.0
2.2
2.5
2.8
3.2
3.6
4.0
4.5
5.0


332
375 000
FEET
30°00'
87°00'
1 225 000 FEET
51
1 250
52 1 275
KILOMETERS
MILES

THE FLORIDA ECOLOGICAL ATLAS WAS PRODUCED BY THE U.S. FISH AND WILDLIFE SERVICE, DIVISION OF BIOLOGICAL SERVICES, NATIONAL COASTAL ECOSYSTEMS TEAM (FWS OBS - 82 47) AND THE MINERALS MANAGEMENT SERVICE FOR COASTAL PLANNERS, DECISION MAKERS, AND THE GENERAL PUBLIC, TO DETERMINE AND EVALUATE CHANGE AND TO RESOLVE CONFLICTS AMONG LAND USES, FISH AND WILDLIFE REQUIREMENTS, AND THE MAINTENANCE OF ECOLOGICAL DIVERSITY. THE STUDY AREA INCLUDES THE COASTAL COUNTIES ESCAMBIA, SANTA ROSA, OKALOOSA, WALTON, WASHINGTON, BAY, CALHOUN, GULF, FRANKLIN, WAKULLA, JEFFERSON, TAYLOR, DIXIE, LEVY, CITRUS AND HERNANDO, AND EXTENDS OFFSHORE APPROXIMATELY 10 MILES. THERE IS NO ATTEMPT, IN THE DESIGN OR PRODUCTS OF THIS STUDY, TO DEFINE THE LIMITS OF PROPRIETARY JURISDICTION OF ANY FEDERAL, STATE, OR LOCAL GOVERNMENT TO ESTABLISH THE GEOGRAPHICAL SCOPE OF THE REGULATORY PROGRAMS OF GOVERNMENT AGENCIES.

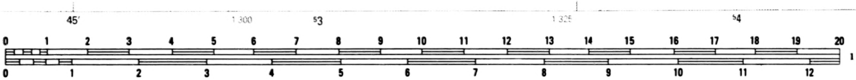
THIS MAP HAS BEEN COMPILED FROM A VARIETY OF SOURCE MATERIALS INCLUDING MAPS, AERIAL PHOTOS, AND REPORTS. SINCE MANY SOURCES CONTAINED GENERALIZED LOCATIONS OF RESOURCES AND OTHER MAPPED FEATURES, THE USER SHOULD NOT RELY ON THESE MAPS FOR PRECISE MEASUREMENTS OF DISTANCES OR AREAS.

PRIMARY SOURCES OF MAPPED INFORMATION:

HYDROLOGY: Potentiometric Surface of the Floridan Aquifer, Northwest Florida Water Management District, Tallahassee, Florida, 1980.
Potentiometric Surface of the Floridan Aquifer, Suwanee River Water Management District, Live Oak, Florida, 1980.
Potentiometric Surface of the Floridan Aquifer, Southwest Florida Water Management District, Brooksville, Florida, 1981.
Sea, Lake, and Overland Surges from Hurricanes (SLOSH) Model, National Oceanic and Atmospheric Administration, Silver Spring, Maryland, 1981.
Water Resources Data for Florida, U.S. Geological Survey, Tallahassee, Florida, 1979, 1980.
Water Quality Inventory for the State of Florida, Dept. of Environmental Regulation, Tallahassee, Florida, 1982.
Current Atlas of the West Florida Shelf, New England Coastal Engineers, Bangor, Maine. 1982.

CLIMATOLOGY: National Climatic Center, Asheville, North Carolina. 1981.

FOR COMPLETE REFERENCES SEE MAP NARRATIVE


45′
1 300
53
1 325
54
1 350
30′
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
0
1
2
3
4
5
6
7
8
9
10
11
12

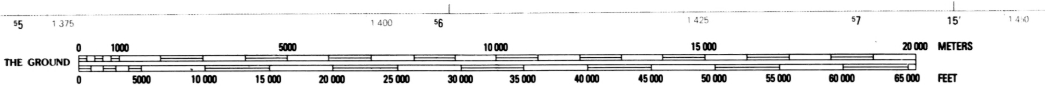
SCALE 1:100 000

1 CENTIMETER ON THE MAP REPRESENTS 1 KILOMETER ON

CONTOUR INTERVAL 5 METERS

CLIMATOLOGICAL STATION

1. Pensacola FAA Airport
2. Milton Experimental Station
3. Crestview FAA Airport
4. De Funiak Springs
5. Niceville
6. Chipley 3 E
7. Panama City NE


55
1 375
1 400
56
1 425
57
15′
1 450
THE GROUND
0
1000
5000
10 000
15 000
20 000
METERS
0
5000
10 000
15 000
20 000
25 000
30 000
35 000
40 000
45 000
50 000
55 000
60 000
65 000
FEET

NAMES

8. Blountstown
9. Apalachicola Airport
10. St. Marks 5 SSE
11. Monticello 3 W
12. Cross City 2 WNW
13. Inverness
14. Brooksville Chinsegut Hill

┃┃┃┃┃┃┃┃┃┃┃┃ **U.S. GEOLOGICAL SURVEY HYDROLOGIC UNIT BOUNDARIES (Cont'd)**

Coastal Area between Ochlockonee and Apalachicola Rivers (130013)
Ochlockonee River Basin (120003)
St. Marks and Wakulla Rivers and Coastal Area between Aucilla and Ochlockonee Rivers (120001)
Aucilla River Basin (110103)
Coastal Area between Suwannee and Aucilla Rivers (110102)
Suwannee River Basin below Withlacoochee River excluding Santa Fe River Basin (110205)
Waccasassa River and Coastal Area between Withlacoochee and Suwannee Rivers (110101)
Oklawaha River Basin (080102)
Withlacoochee River Basin (100208)
Coastal Area from Tampa Bay to Withlacoochee River (100207)

▲ Q = ___ cfs
R = ___ in/yr

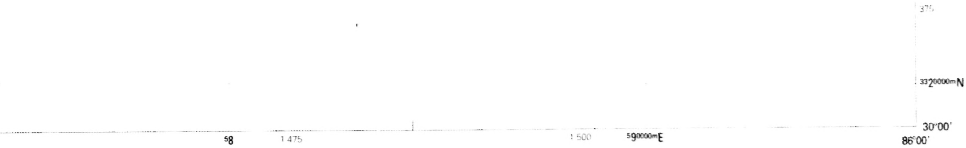
U.S. GEOLOGICAL SURVEY STREAM GAGING STATION

Mean Annual Discharge (cubic feet/second) = Q
Mean Annual Runoff (inches/year) = R

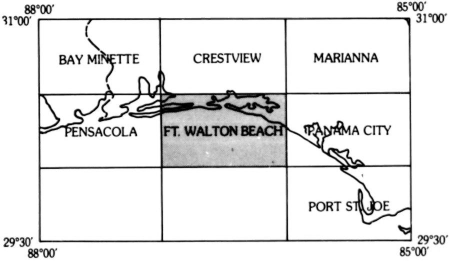
△ SC = ___ mmhos
Q = ___ cfs
R = ___ in/yr

U.S. GEOLOGICAL SURVEY STREAM GAGE AND SURFACE WATER QUALITY STATION

Mean Annual Surface Water Specific Conductivity (micromhos) = SC
Mean Annual Discharge (cubic feet/second) = Q
Mean Annual Runoff (inches/year) = R


375
3320000m N
30°00′
86°00′
58
1 475
1 500
590000m E

△	**FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION FIXED SURFACE WATER STATION** (Insufficient period of record to establish a long term mean)
○ SC= ___mmhos CI= ___mg/l	**U.S. GEOLOGICAL SURVEY GROUND WATER OBSERVATION AND WATER QUALITY WELL** Mean Annual Ground Water Specific Conductivity (micromhos) = SC Dissolved Chloride (milligrams/liter) = Cl
S = ___ ppt	**MEAN ANNUAL COASTAL SALINITY** (parts per thousand) = S
	STUDY AREA BOUNDARY
▮▮▮▮▮▮▮▮▮▮	Offshore
— — —	Inland (County)
—--—	Inland (State)


88°00′
31°00′
85°00′
31°00′
BAY MINETTE
CRESTVIEW
MARIANNA
PENSACOLA
FT. WALTON BEACH
PANAMA CITY
PORT ST. JOE
29°30′
88°00′
29°30′
85°00′

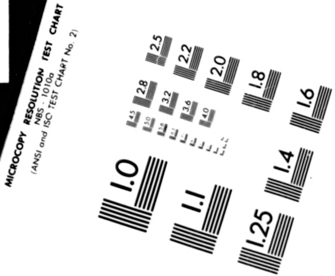
probability of occurence no historical record)

(Hurricane inundation zones on this map represent generalized areas of maximum areal storm surge flooding by storm category. The scale and detail of this map are meant for planning purposes only. This map is unsuitable for determining the vulnerability of individual buildings to storm surge)

U.S. GEOLOGICAL SURVEY
HYDROLOGIC UNIT BOUNDARIES

Perdido River Basin (14106)
Perdido Bay, Inflow and Coastal Area (140107)
Lower Conecuh River Basin (140304)
Escambia River Basin (140305)
Blackwater River Basin (140104)
Escambia Bay, Inflow and Coastal Area (140105)
Yellow River Basin (140103)
Choctawhatchee Bay, Inflow and Coastal Area (140102)
Pea River Basin (140202)
Choctawatchee River below Pea River (140203)
St. Andrews Bay, Inflow and Coastal Area (140101)
Chipola River Basin (130012)
Apalachicola River Basin (130011)
Apalachicola Bay Coastal Area and Offshore Islands (130014)

MICROFILMED FROM
BEST AVAILABLE COPY


MICROCOPY RESOLUTION TEST CHART
NBS - 1010a
(ANSI and ISO TEST CHART No. 2)
1.0
1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.5
2.8
3.2
3.6
4.0
4.5
5.0